AMENDMENTS IN THE CLAIMS

1. (Previously Presented) A method for synchronizing a scrambling code in a CDMA (Code Division Multiple Access) communication system including a UTRAN (UMTS (Universal Mobile Telecommunications System) Terrestrial Radio Access Network) and a plurality of user equipments (UEs), using orthogonal codes for identifying the UEs and a single up-link scrambling code for the UEs to identify the UTRAN, and employing an uplink synchronous transmission scheme (USTS) where the UEs synchronize frames of uplink physical channels using the single scrambling code, wherein the UEs receive a signal providing system timing provided from the UTRAN and transmit a random access channel (RACH) signal based on the system timing, comprising the steps of:

receiving, in the UTRAN, the random access channel signal from a UE to measure a propagation delay time (PD) of the UE, and transmitting a transmission time adjustment value calculated using the measured propagation delay time and a time offset $\tau_{DPCH,n}$ between the system timing and a transmission time point of a downlink dedicated physical channel (DPCH); and

determining, in the UE, a transmission time of the uplink physical channel signal by receiving the transmission time adjustment value, and scrambling a frame data with an orthogonal code and a scrambling code generated at a time being different from a generating time of the frame data with a scrambling code offset calculated from the transmission time adjustment value.

2. (Previously Presented) The method as claimed in claim 1, wherein the system timing is a starting timing of a common pilot channel (CPICH) signal.

3. (Previously Presented) The method as claimed in claim 1, wherein the system timing is a starting timing of a primary common control physical channel (P-CCPCH) signal.

4. (Original) The method as claimed in claim 1, wherein the transmission time adjustment value is calculated by:

transmission time adjustment value = $(\tau_{DPCH,n} + T_o + 2*PD) \bmod 2560$

where T_o is a constant value.

5. (Original) The method as claimed in claim 1, wherein the transmission time adjustment value is calculated by:

transmission time adjustment value =2560 - $[(\tau_{DPCH,n} + T_o + 2*PD) \bmod 2560]$

where T_o is a constant value.

6. (Original) The method as claimed in claim 1, wherein the transmission time adjustment value is calculated by:

transmission time adjustment value = $(\tau_{DPCH,n} + T_o + 2*PD) \bmod 256*m$

where T_o is a constant value, and m=1,2,3,..,10.

7. (Original) The method as claimed in claim 1, wherein the transmission time adjustment value is calculated by:

transmission time adjustment value = $(256*m) - [(\tau_{DPCH,n} + T_o + 2*PD) \bmod 256*m]$

where T_o is a constant value, and m=1,2,3,..,10.

8. (Original) The method as claimed in claim 1, wherein the transmission time adjustment value is calculated by subtracting the propagation delay time from a constant value T_o.

9. (Original) The method as claimed in claim 1, wherein the scrambling code offset is calculated by:

offset = $\tau_{DPCH,n} + T_o + 2PD + L$

where L indicates the transmission time adjustment value.

10. (Currently Amended) A method for synchronizing a scrambling code in a UE of a CDMA communication system including a UTRAN and a plurality of UEs, using orthogonal codes for identifying the UEs and a single uplink scrambling code for the UEs to identify the UTRAN and employing an uplink synchronous transmission scheme (USTS) where the UEs synchronize frames of uplink physical channels using the single scrambling code, wherein the UEs receive a signal providing system timing provided from the UTRAN and transmit a random access channel (RACH) signal based on the system timing, comprising the steps of:

determining a transmission time upon receipt of a transmission time adjustment value for slot synchronization from the UTRAN in response to the transmitted RACH signal;

creating a scrambling code at the system timing ~~time~~;

creating a data frame at the determined transmission time; and

scrambling, at the determined transmission time, the data frame with the scrambling code generated at a time being different from a transmission time of the frame data with a scrambling code offset calculated from the transmission time adjustment value.

11. (Currently Amended) An apparatus for synchronizing a scrambling code in a UE of a CDMA communication system including a UTRAN and a plurality of UEs, using orthogonal codes for identifying the UEs and a single uplink scrambling code for the UEs to identify the UTRAN, and employing an uplink synchronous transmission scheme (USTS) where the UEs synchronize frames of uplink physical channels using the single scrambling code, wherein the UEs receive a signal providing system timing provided from the UTRAN and transmit a random access channel (RACH) signal based on the system timing, the apparatus comprising:

a controller for determining a transmission time upon receipt of a transmission time adjustment value for slot synchronization from the UTRAN in response to the transmitted RACH signal;

a scrambling code generator for creating a scrambling code at the system timing ~~time~~;

a frame generator for creating a data frame at the determined transmission time; and

a scrambler for scrambling, at the transmission time determined by the controller, the data frame with the scrambling code generated at a time being different from a transmission time of the frame data with a scrambling code offset calculated from the transmission time adjustment value at the system time.

12. (Previously Presented) The apparatus as claimed in claim 11, wherein the system timing is a starting timing of a common pilot channel (CPICH) signal.

13. (Previously Presented) The apparatus as claimed in claim 11, wherein the system timing is a starting timing of a primary common control physical channel (P-CCPCH) signal.

14. (Original) The apparatus as claimed in claim 11, wherein the transmission time adjustment value is calculated by:

transmission time adjustment value = $(\tau_{DPCH,n} + T_o + 2*PD) \bmod 2560$

where T_o is a constant value.

15. (Original) The apparatus as claimed in claim 11, wherein the transmission time adjustment value is calculated by:

transmission time adjustment value =$2560 - [(\tau_{DPCH,n} + T_o + 2*PD) \bmod 2560]$

where T_o is a constant value.

16. (Original) The apparatus as claimed in claim 11, wherein the transmission time adjustment value is calculated by:

transmission time adjustment value = $(\tau_{DPCH,n} + T_o + 2*PD) \bmod 256*m$

where T_o is a constant value, and m=1,2,3,..,10.

17. (Original) The apparatus as claimed in claim 11, wherein the transmission time adjustment value is calculated by:

transmission time adjustment value = $(256*m) - [(\tau_{DPCH,n} + T_o + 2*PD) \bmod 256*m]$

where T_o is a constant value, and m=1,2,3,..,10.

18. (Original) The apparatus as claimed in claim 11, wherein the transmission time adjustment value from a constant T_o is calculated by subtracting the propagation delay time from a constant value T_o.

19. (Original) The apparatus as claimed in claim 11, wherein the scrambling code for scrambling the message is delayed by a given scrambling code offset from the scrambling code generated at the system time.

20. (Original) The apparatus as claimed in claim 19, wherein the offset is calculated by:

$$\text{offset} = \tau_{DPCH,n} + T_o + 2PD + L$$

where L indicates the transmission time adjustment value.

21. (Currently Amended) A method for data transmission in a communication system, the method comprising:

receiving, at a Network, a Random Access Channel (RACH) transmitted from a User Equipment (UE);

calculating a transmission time adjustment value for the UE;

transmitting the transmission time adjustment to the UE;

receiving, at the UE, the transmission time adjustment value;

calculating a starting timing of an uplink frame;

generating an orthogonal code for spreading the uplink frame at the starting timing ~~time~~ of the uplink frame;

generating a scrambling code for scrambling code for scrambling the uplink frame at a predetermined timing; and

transmitting the uplink frame scrambled and spread by the scrambling code and the orthogonal code with reference to the starting timing ~~point~~ of the uplink frame.

22. (Previously Presented) The method as claimed in claim 21, wherein the predetermined timing for the scrambling code is a starting timing of a common pilot channel (CPICH).

23. (Previously Presented) The method as claimed in claim 21, wherein the starting timing of the uplink frame is synchronized with a starting timing of a slot time of a common pilot channel (CPICH).

24. (Previously Presented) The method as claimed in claim 23, wherein the transmission time adjustment value can be adjusted as much as a propagation delay of an uplink and downlink.